

Translation

PATENT COOPERATION TREATY

PCT/DE2003/003272



PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002P16561WO	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/DE2003/003272	International filing date (day/month/year) 01 October 2003 (01.10.2003)	Priority date (day/month/year) 13 November 2002 (13.11.2002)
International Patent Classification (IPC) or national classification and IPC F02M 25/08		
Applicant SIEMENS AKTIENGESELLSCHAFT		

1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
- ☒ This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).

These annexes consist of a total of 7 sheets.

3. This report contains indications relating to the following items:

- I ☒ Basis of the report
- II ☐ Priority
- III ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- IV ☐ Lack of unity of invention
- V ☒ Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- VI ☐ Certain documents cited
- VII ☐ Certain defects in the international application
- VIII ☐ Certain observations on the international application

Date of submission of the demand 22 April 2004 (22.04.2004)	Date of completion of this report 03 February 2005 (03.02.2005)
Name and mailing address of the IPEA/EP	Authorized officer
Facsimile No.	Telephone No.

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International application No.  
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## I. Basis of the report

1. This report has been drawn on the basis of (Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments.):

☐ the international application as originally filed.

☒ the description, pages \_\_\_\_\_, as originally filed,  
pages 1, 4-12, filed with the demand,  
pages 2, 2a, 3, 3a, filed with the letter of 22 December 2004 (22.12.2004),  
pages \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the claims, Nos. \_\_\_\_\_, as originally filed,  
Nos. \_\_\_\_\_, as amended under Article 19,  
Nos. \_\_\_\_\_, filed with the demand,  
Nos. 1-8, filed with the letter of 22 December 2004 (22.12.2004),  
Nos. \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

☒ the drawings, sheets/fig 1/2-2/2, as originally filed,  
sheets/fig \_\_\_\_\_, filed with the demand,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_,  
sheets/fig \_\_\_\_\_, filed with the letter of \_\_\_\_\_.

2. The amendments have resulted in the cancellation of:

☐ the description, pages \_\_\_\_\_  
☐ the claims, Nos. \_\_\_\_\_  
☐ the drawings, sheets/fig \_\_\_\_\_

3. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

4. Additional observations, if necessary:

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## V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

### 1. Statement

Novelty (N)	Claims	1-8	YES
	Claims		NO
Inventive step (IS)	Claims	1-8	YES
	Claims		NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO

### 2. Citations and explanations

Reference is made to the following document:

D1: US-A-5216991.

#### Claim 1:

Document D1 discloses a method for controlling a regeneration valve of an evaporative emission control system of an internal combustion engine, wherein the regeneration valve (23) is controlled by a control signal (duty P<sub>ci</sub>), wherein the control signal corresponds to a particular valve position, and wherein the relationship between the control signal and the resulting position of the regeneration valve is determined using a calibration process.

To this end, in document D1 the valve is actuated by different values of the control signal and on the basis of the load reduction by ignition retard required for compensation it is determined whether the valve is open or closed. The control signal P<sub>0</sub>, which opens the valve, is stored for the calibration of the characteristic curve according to figure 15 or figure 16.

The subject matter of claim 1 therefore differs from a method according to document D1 in that the valve position corresponding to different control signal values is derived from the load reduction by ignition retard, and the individual values of the control signal and the resulting valve position are stored as interpolation points of a characteristic curve.

If the interpolation points for several valve positions are determined the characteristic curve can be calibrated more precisely. This solution is not suggested by document D1 since document D1 does not determine the actual valve position from the load reduction by ignition retard but merely determines whether the valve has opened. The remainder of the prior art citations likewise offer nothing to suggest the calibration of the entire characteristic curve by the determination of a plurality of interpolation points.

Consequently, claim 1 is novel and inventive within the meaning of PCT Article 33(2) and (3).

**Dependent claims:**

Dependent claims 2-8 are dependent on claim 1 and therefore likewise meet the PCT requirements for novelty and inventive step.

**Clarity**

The use of the expression "in particular" in claim 1 results in lack of clarity within the meaning of PCT Article 6. Although anyone working in the field of patents knows that such expressions should not be considered to

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have a restrictive effect, the same cannot be said of the general public. It should further be noted that the claims might be translated and that there is no guarantee that the lack of clarity might not result in a mistake in the translation.